

TIP41A/41B/41C
TIP42A/42B/42C

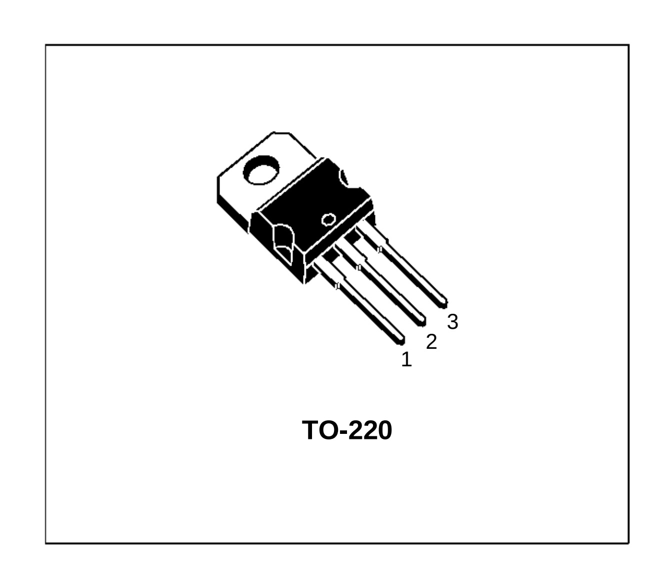
COMPLEMENTARY SILICON POWER TRANSISTORS

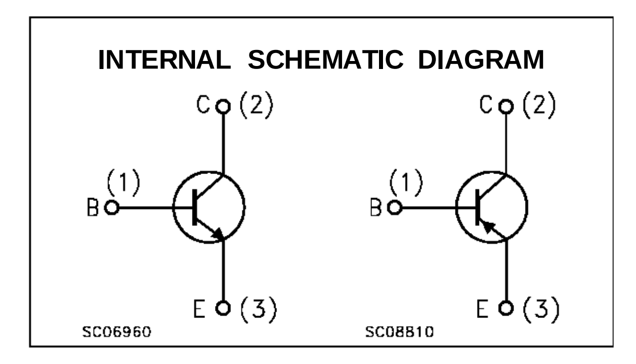
- SGS-THOMSON PREFERRED SALESTYPES

DESCRIPTION

The TIP41A, TIP41B and TIP41C are silicon epitaxial-base NPN power transistors in Jedec TO-220 plastic package, intented for use in medium power linear and switching applications.

The complementary PNP types are TIP42A, TIP42B and TIP42C.





ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value			Unit
		NPN	TIP41A	TIP41B	TIP41C	
		PNP	TIP42A	TIP42B	TIP42C	
V_{CBO}	Collector-Base Voltage (I_E = 0)		60	80	100	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)		60	80	100	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)		5			V
I_C	Collector Current		6			A
I_{CM}	Collector Peak Current		10			A
I_B	Base Current		3			A
P_{tot}	Total Dissipation at $T_{case} \leq 25\ ^oC$ $T_{amb} \leq 25\ ^oC$		65 2			W W
T_{stg}	Storage Temperature		-65 to 150			^oC
T_j	Max. Operating Junction Temperature		150			^oC

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case Max	1.92	$^oC/W$
$R_{thj-amb}$	Thermal Resistance Junction-ambient Max	62.5	$^oC/W$

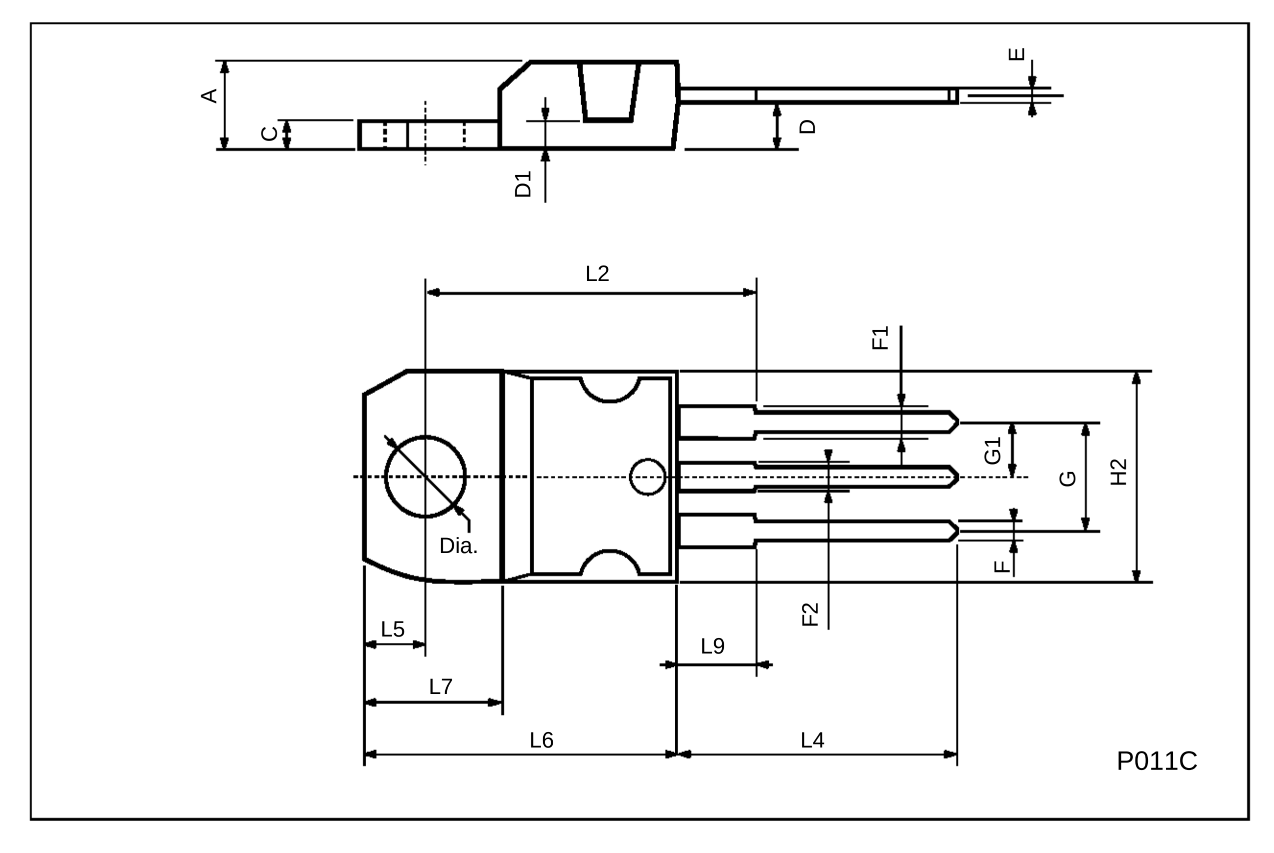
ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current (I_B = 0)	for **TIP41A/42A** V_{CE} = 30 V for **TIP41B/41C/42B/42C** V_{CB} = 60 V			 0.7 0.7	 mA mA
I_{CES}	Collector Cut-off Current (V_{BE} = 0)	for **TIP41A/42A** V_{CE} = 60 V for **TIP41B/42B** V_{CE} = 80 V for **TIP41C/42C** V_{CE} = 100 V			0.4 0.4 0.4	mA mA mA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 5 V			1	mA
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage (I_B = 0)	I_C = 30 mA for **TIP41A/42A** for **TIP41B/42B** for **TIP41C/42C**	 60 80 100			 V V V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 6 A I_B = 0.6 A			1.5	V
$V_{BE(on)}$*	Base-Emitter Voltage	I_C = 6 A V_{CE} = 4 V			2	V
h_{FE}*	DC Current Gain	I_C = 0.3 A V_{CE} = 4 V I_C = 3 A V_{CE} = 4 V	30 15		 75	
h_{fe}	Small Signal Current Gain	I_C = 0.5 A V_{CE} = 10 V f = 1 KHz I_C = 0.5 A V_{CE} = 10 V f = 1 MHz	 20 3			

∗ Pulsed: Pulse duration = 300 µs, duty cycle ≤ 2 %
For PNP types voltage and current values are negative.

TO-220 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
C	1.23		1.32	0.048		0.051
D	2.40		2.72	0.094		0.107
D1		1.27			0.050	
E	0.49		0.70	0.019		0.027
F	0.61		0.88	0.024		0.034
F1	1.14		1.70	0.044		0.067
F2	1.14		1.70	0.044		0.067
G	4.95		5.15	0.194		0.203
G1	2.4		2.7	0.094		0.106
H2	10.0		10.40	0.393		0.409
L2		16.4			0.645	
L4	13.0		14.0	0.511		0.551
L5	2.65		2.95	0.104		0.116
L6	15.25		15.75	0.600		0.620
L7	6.2		6.6	0.244		0.260
L9	3.5		3.93	0.137		0.154
DIA.	3.75		3.85	0.147		0.151




SGS-THOMSON
MICROELECTRONICS